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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,380	10/04/2006	Ralph Buesgen	2003P05648WOUS	3668

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

MARTE, JUAN C

ART UNIT	PAPER NUMBER
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4142

MAIL DATE	DELIVERY MODE
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10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,380	Applicant(s) BUESGEN ET AL.	
	Examiner JUAN C. MARTE	Art Unit 4142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/18/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to application 10553380.
2. Claims 21-40 are pending.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The Abstract of the discloser is objected to because of the use of legal phraseology "means" on line 4 of the Abstract.

Claim Objections

5. Claims 1, is objected to because of the following informalities:
 - the word "this" on line 7 should be written as "a" node to clarify which prior device or node is being referred to.
 - the word "this" on line 9 should be written as "a" node to clarify which prior device or node is being referred to.
 - the word "this" on line 10 should be written as "a" node to clarify which prior device or node is being referred to.

- the word “this” on line 11 should be written as “a” node to clarify which prior device or node is being referred to.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 33, 34-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claim 33, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 U.S.C. 101. It is clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, it fails to fall within a statutory category. It is, at best, functional descriptive material *per se*.

Claim 33 does not provide the computer-readable medium needed to realize the program's functionality. As such, claim 33 is not limited to statutory subject matter and is therefore non-statutory.

With respect to claims 34-36, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of the 35 U.S.C. 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, it fails to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 21-29, 33-38 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Allon et al (U.S. Patent # 5,539,883).

With respect to claim 21, Allon teaches, a method for identifying an order of devices in a network, wherein the network contains a number of nodes, and wherein each of the nodes has a number of connections for interconnecting the nodes and the devices, the method comprising the following steps (i.e., col. 4 lines 16-23, disclose the generating of links between nodes and other nodes in a network so that a tree structure that they each belong to is formed):

- a) identifying the node connected to one of the devices (i.e., col. 6 lines 16-18);
- b) ascertaining the number of connections of this node and a predefined hierarchy of the connections (i.e., col. 6 lines 29-34);
- c) determining for this node the connection with which the device is connected to this node (i.e., col. 6 lines 35-41);
- d) determining for this node other connections which are connected to other nodes or devices (i.e. col. 6 lines 22-28, discloses the node receiving and storing information from other nodes in the network concerning the nodes they are link to as well); and

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e) establishing a relationship between devices in the network on the basis of the connection hierarchy predefined for the node and of the determined connections which are connected to the devices or other nodes (i.e., col. 4 lines 42-47, disclose the assignment of rank to each node in the network to determine its place in the network tree).

With Respect to claim 22, Allon teaches the limitations of claim 21 including the method according to claim 21, wherein the steps a)-e) are executed by each of the devices (i.e., col. 6 lines 14-43, disclose the steps taken by each node in the network tree to send and receive information concerning the placement of each node in the network tree).

With Respect to claim 23, Allon teaches the limitations of claim 21 including the method according to claim 21, wherein by step e) another device is established as upstream neighbor and another device is established as downstream neighbor for each of the devices (i.e., col. 7 lines 1-18, disclose the network tree building process as executed by each node in the network to determine its place in the network as a downstream or upstream node).

With Respect to claim 24, Allon teaches the limitations of claim 21 including, the method according to claim 21, wherein each step of the method is repeated periodically (i.e., col. 4 lines 15-31, col. 5 lines 12-21 and lines 62-67, disclose the periodic distribution of the network tree information across the network which is used by each node to determine its placement in the network as well as the placement and status of all other nodes in the network).

With Respect to claim 25, Allon teaches the limitations of claim 21 including the method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a device is no longer connected to the network (i.e., col. 8 lines 35-59, disclose the network tree maintenance process that takes place to recognize dead or new nodes on the network).

With respect to claim 26, Allon teaches the limitations of claim 21 including, the method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a new device is connected to the network (i.e., col. 8 lines 35-59, disclose the network tree maintenance process that takes place to recognize dead or new nodes on the network).

With respect to claim 27, Allon teaches the limitations of claim 21 including, the method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a device is replaced by a new device (i.e., col. 8 lines 21-26 and lines 35-59, disclose the network tree maintenance process that takes place to recognize dead or new nodes on the network as well as replacing and rebooting a node).

With respect to claim 28, Allon teaches the limitations of claim 21 including, the method according to claim 21, wherein the relationship established with step e) is stored in the devices or nodes (i.e., col. 4 lines 16-25, disclose the storing of the network tree information on each node in the network).

With respect to claim 29, Allon teaches the limitations of claim 28 including, the method according to claim 28, wherein a device which replaces another device in the network carries out the steps a-d) and interrogates its neighbor for the stored

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relationship (i.e., col. 8 lines 21-26 and lines 35-59, disclose the network tree maintenance process that takes place to recognize dead or new nodes on the network as well as replacing and rebooting a node).

The limitations of claim 33 are rejected in the analysis of claim 21 above, and the claim is rejected upon that basis.

With respect to claim 34, Allon teaches, an apparatus for identifying an order of devices in a network, the network having a plurality of nodes, each of the nodes having a number of connections with a predefined hierarchy and the nodes and the devices being interconnectable by means of the connections (i.e., col. 6 lines 14-44, disclose a computer in a network containing other computers capable of identifying other nodes in the network, accessing and storing a list of all nodes in the network and sending information about the network to other nodes on the network), the apparatus comprising: a mechanism for identifying the node connected to one of the devices (i.e., col. 4 lines 42-46, disclose the assigning of a rank to each node in the network to form the network tree structure); a mechanism for determining other connections of the node which are connected to other nodes or devices (i.e., col. 6 lines 14-18, disclose means for identifying the links between computers in a network); and a mechanism for establishing a relationship between devices in the network, on the basis of the connection hierarchy predefined for the node and of the determined connections which are connected to devices or other nodes (i.e., col. 9 lines 44-57, disclose process by which each computer in the network establishes its relationship with the other nodes on the network).

With respect to claim 35, Allon teaches the limitations of claim 34 including the apparatus according to claim 34, further comprising a mechanism for storing the established hierarchy (i.e., col. 9 lines 44-46, disclose the storing of the network hierarchy in each computer).

With respect to claim 36, Allon teaches the limitations of claim 34 including, a network having a plurality of nodes and devices, and at least one apparatus according to claim 34 (i.e., col. 4 lines 53-59, disclose that each computer or node in the network is capable of carrying out the actions of the invention independent of other systems).

With respect to claim 37, Allon teaches the limitations of claim 36 including, the network according to claim 36, wherein the apparatus is present in each of the devices (i.e., col. 9 lines 44-55, disclose that each computer is capable of performing the process of storing information concerning the hierarchy of the network and sharing this information with the other nodes of the network).

With respect to claim 38, Allon teaches the limitations of claim 36 including, the network according to claim 36, wherein the network is an automation system containing controls, operator units, drives or actuators as devices (i.e., col. 6 lines 18-28, disclose a computer or node operating in a network of similar devices with which it is link too).

With respect to claim 40, Allon teaches the limitations of claim 36 including, the network according to claim 36, wherein the network is a means of rail transport containing traction vehicles and cars as devices (i.e., col. 12 lines 31-40, disclose the configuration of a cluster where each computer or node is assigned a different ranking and each node connects to other nodes in the cluster and not those outside of the

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cluster.)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30, 31, 32, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allon et al (U.S. Patent # 5,539,883) in view of Liu et al. (U.S. Patent # 6,574,664).

With respect to claim 30, Allon teaches the claimed subject matter as discussed above in claim 21 except, wherein the steps a) and c) are performed by a discovery protocol.

However, Lui discloses discovering devices on a local network. Liu teaches performing steps a) and c) that are performed by a discovery protocol (i.e., col. 2 lines 35-45, this procedure returns both the IP address and the MAC address of the device which are then stored in a table in a database that is accessible by other application programs) in order to use a discovery protocol to identify the node connected to one of the devices as well as to determine the connection with which the device is connected to this node (col. 2 lines 31-34).

Therefore, based on Allon and in view of Liu it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Liu in the system of Allon in order to use discovery protocol to identify the node connected to one of the devices as well as to determine the connection with which the device is connected to this node.

With respect to claim 31, Allon teaches the claimed subject matter as disclosed above in claim 21 except, wherein step d) is performed by the MAC addresses.

However, Lui discloses discovering devices on a local network. Liu teaches performing step d) is performed by the MAC addresses (i.e., col. 2 lines 28-34, the discovery procedure utilizes the MAC address to discover the nodes or devices on the network) in order to determine the other connections connected to other nodes or devices for this node (col. 2 lines 35-45).

Therefore, based on Allon and in view of Liu it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Liu in the system of Allon in order to determine the other connections connected to other nodes or devices for this node.

With respect to claim 32, Allon teaches the claimed subject matter as disclosed above in claim 21 except, wherein the relationship determined in step e) also contains the IP addresses of the other devices.

However, Lui discloses discovering devices on a local network. Lui teaches the IP addresses of the other devices in determining the relationship (i.e., col. 2 lines 23-51, the local IP address procedure discovers the IP address of the devices on the local

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network and the IP address is stored) in order to perform more complex operation in managing devices on the network (col. 2, lines 1-3 and col. 1 lines 33-38).

Therefore, based on Allon and in view of Liu it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Liu in the system of Allon in order to perform more complex operations with the devices or nodes on the network.

With respect to claim 39, Allon teaches the claim subject matter as disclosed about in claim 36 except, wherein the network is an Ethernet containing personal computers or peripherals as devices.

However, Lui discloses devices or nodes on an Ethernet topology. Lui teaches, wherein the network is an Ethernet containing devices or nodes (i.e., col. 3 lines 34-53, the network can utilize any type of network topology but the preferred topology is the Ethernet topology) in order to have a network containing thousands of addressable devices (col. 3, lines 54-56).

Therefore, based on Allon and in view of Liu it would have been I would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Liu in the system of Allon in order to have a network containing thousands of addressable devices.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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a. US-7,249,173 B2, Nicolson et al. discloses techniques for abstract node discovery.

b. US-5,710,885 Bondi et al. discloses a network management system with improved node discovery and monitoring.

12. Any inquiry or correspondence concerning this communication or earlier communications from the examiner should be directed to J. Carlos Marte whose telephone number is (571) 270-7206. The examiner can normally be reached M-F between the hours of: 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Hwang can be reached at 571-272-4036.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions concerning the access of the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-2197 (toll-free).

/J. C. M./
Examiner, Art Unit 4142
8/29/08

/DUSTIN NGUYEN/

Primary Examiner, Art Unit 2154